WHAT IS CLAIMED IS:

1. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying inert adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein said driven system and said power means for rotating said drum are independently operated and at least one is variably driven such that the angle of wrap of said weft yarn material relative to the warp yarns is variable.

2. The apparatus of claim 1, wherein the angle of wrap of said weft yarns relative to the warp yarns in the range of 80 degrees to slightly more than about 89.7 degrees.

3. The apparatus of claim 1, wherein said adhesive is applied across

the top of said warp yarns as they are moved along said support structure.

4. The apparatus of claim 3, wherein said adhesive is in the form of a scrim.

5. The apparatus of claim 4, wherein said scrim provides adhesive that is no more than about 20% by weight of the nonwoven product.

6. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein said drum at said weft yarn delivery station further includes a radial wall and said source supply of weft yarn material is mounted on said radial wall, there being a plurality of said source supplies circumferentially spaced

around said radial wall.

7. The apparatus of claim 6, wherein said source supplies of weft yarn material are spools of the weft yarn material.

8. The apparatus of claim 6, wherein said drum comprises a hollow ring surrounding said cylindrical support structure having front and rear radial walls with inner and outer surfaces and inner and outer cylindrical walls which are interconnected with said front and rear walls and said source supplies of weft yarn material are mounted on the inner surface of said front wall.

9. The apparatus of claim 8, wherein weft yarn material from each of said source supplies is fed to said rear wall of said drum and radially inwardly along said rear wall to the warp yarns on said cylindrical support structure.

10. The apparatus of claim 9, further including a tensioner on said rear wall of said drum associated with each of said source supplies through which said weft yarn material passes to maintain a predetermined tension in said weft yarn material as it is applied around said warp yarns.

11. The apparatus of claim 10, wherein said tensioner is variable to selectively regulate the tension in said weft yarn material as it is applied around said warp yarns.

12. The apparatus of claim 10, wherein said tensioner is spaced from said warp yarns and further including a guide pin on said rear wall associated with each of said tensioners and positioned immediately adjacent to said warp yarns and around which said weft yarns extend prior to being wound around said warp yarns.

13. The apparatus of claim 10, wherein said tensioner includes two control plates between which said weft yarn material extends and biasing means operatively engaging one of said control plates to bias it toward the other of said

control plates to apply pressure to said weft yarn material between said control plates.

14. The apparatus of claim 13, further including means for varying the bias of said one control plate thereby varying the pressure applied to said weft yarn material.

15. The apparatus of claim 12, further including a leveling plate on said rear wall associated with each of said guide pins, said leveling plate being positioned to overlie a plurality of wraps of weft yarn material and being spaced from said warp yarns a distance substantially equal to the diameter of said weft yarn material so as to assure a single layer wrap of said weft yarn material around said warp yarns.

16. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said

support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein the adhesive applied to said warp yarns is 5-20% by weight of the nonwoven product.

17. The apparatus of claim 16, wherein said adhesive comprises a scrim of adhesive material.

18. The apparatus of claim 17, further including a supply roll of said scrim and said adhesive delivery system lays said scrim on top of said warp yarns prior to the weft yarn material being wrapped around the warp yarns so that the scrim is positioned between said warp yarns and the wrapped weft yarn material.

19. The apparatus of claim 18, wherein said scrim comprises randomly positioned adhesive strands defining gaps between the strands.

20. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship

therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein said adhesive is in the form of a scrim.

21. The apparatus of claim 20, further including a supply roll of said scrim and said adhesive delivery system lays said scrim on the top of said warp yarns prior to the weft yarn material being wrapped around the warp yarns so that the scrim is positioned between said warp yarns and the wrapped weft yarn material.

22. The apparatus of claim 21, wherein said scrim comprises randomly positioned adhesive strands.

23. The apparatus of claim 22, wherein there are gaps between said strands.

24. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft

yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein there are 40-100 warp yarns per inch along the periphery of said outer surface of said support structure.

25. The apparatus of claim 24, wherein said weft yarn material is wrapped about said warp yarns so as to establish 40-100 wraps of weft yarn material per inch along the length of said warp yarns.

26. The apparatus of claim 24 or 25, wherein said inert adhesive is in the form of a scrim.

27. The apparatus of claim 26, wherein said scrim comprises randomly positioned adhesive strands.

28. The apparatus of claim 27, wherein said strands define gaps therebetween such that the adhesive is applied to said warp yarns to be 5-20% of the weight of the nonwoven product

29. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein said weft yarn material is wrapped about said warp yarns so as to establish 40-100 wraps of weft yarn material per inch along the length of said warp yarns.

30. The apparatus of claim 29, wherein said adhesive is in the form of a scrim.

31. The apparatus of claim 30, wherein said scrim comprises randomly positioned strands of adhesive.

32. The apparatus of claim 31, wherein said strands define gaps therebetween such that the adhesive is applied to said warp yarns to define 5-20% of the weight of the nonwoven product.

33. An apparatus for forming a nonwoven product having warp yarns and weft yarns, said apparatus comprising in combination,

a warp yarn support system including an elongated substantially cylindrical support structure having a low friction outer substantially cylindrical

surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface,

an adhesive delivery system for applying adhesive across the radially outermost surface of said warp yarns,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said radially outermost surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein the tension in said warp yarns is substantially equal to the tension in said weft yarn material as the weft yarn material is wrapped around the warp yarns.

34. The apparatus of claim 33, further including a tensioner in operative engagement with said weft yarn material to selectively tension the weft yarn material as it is wrapped around the warp yarns to match the tension in said warp yarns created by said take-up system as it pulls the warp yarns through the apparatus.

35. A nonwoven fabric comprised of one layer of warp yarns and a second layer of weft yarns, the density of at least one of said warp yarns and weft yarns in the fabric being in the range of 40-140 yarns per inch.

36. The fabric of claim 35, wherein the density of both said warp yarns

and weft yarns in the fabric is in the range of 40-140 yarns per inch.

37. The fabric of claim 35 or 36, wherein the denier of said warp and weft yarns is different.

38. The fabric of claim 35 or 36, wherein the denier of said warp and weft yarns is the same.

39. A nonwoven fabric comprised of one layer of warp yarns and a second layer of weft yarns, said weft yarns extending at an angle in the range of about 80 degrees to about 89.7 degrees relative to the length of the warp yarns.

40. A covering for an architectural opening, comprising in combination,

a nonwoven fabric having one layer of warp yarns and a second layer of weft yarns, said warp yarns and said weft yarns being bonded together so as to define open interstices therebetween, and

a control system for suspending said nonwoven fabric in said architectural opening.

41. The covering of claim 40, wherein the density of at least one of said layers of yarns in said fabric is in the range of 40-100 yarns per inch.

42. The covering of claim 40, wherein the density of both said layers of yarns in the fabric is in the range of 40 to 140.

43. The covering of claim 40, wherein the weft yarns in said second layer extend at an angle in the range of 80 degrees to 89.7 degrees relative to the length of the warp yarns in said one layer.

44. A nonwoven fabric comprised of a layer of warp yarns and a layer of weft yarns adhesively secured together, said adhesive constituting 5 to 20 weight percent of the total weight of the nonwoven fabric.

45. The nonwoven fabric of claim 44, wherein the density of at least one of said warp yarns and said weft yarns in the fabric is in the range of 40-100 yarns per inch.

46. The nonwoven fabric of claim 45, wherein the density of both said warp yarns and weft yarns in the fabric is in the range of 40-100 yarns per inch.

47. The nonwoven fabric of any of claims 44 through 46, wherein the denier of said warp and weft yarns is different.

48. A nonwoven fabric having a layer of warp yarns and a layer of weft yarns which have been adhesively secured together while the tension in the warp and weft yarns was substantially the same.

49. The nonwoven fabric of claim 48, wherein the density of at least one of said warp yarns and said weft yarns in the fabric is in the range of 40-100 yarns per inch.

50. The nonwoven fabric of claim 49, wherein the density of both said warp yarns and weft yarns in the fabric is in the range of 40-100 yarns per inch.

51. The nonwoven fabric of claim 48, wherein the denier of said warp and weft yarns is different.

52. The nonwoven fabric of claim 48, wherein the weft yarns extend at an angle in the range of about 80 degrees to about 89.7 degrees relative to the length of the warp yarns.

53. A nonwoven fabric comprising a first layer of parallel yarns in a first direction, a second layer of parallel yarns in a second direction, said first and second layers being adhered together with said first and second directions only substantially perpendicular to one another.

54. The nonwoven fabric of claim 53, wherein said first and second layers are adhered by an adhesive material.

55. The nonwoven fabric of claim 54, wherein the adhesive material is contained substantially only between the first and second layers.

56. The nonwoven fabric of claims 54 or 55, wherein the adhesive material as applied between said layers has a low density.

57. The nonwoven fabric of claim 56, wherein the adhesive material is from about 5 to 20 percent by weight of the total weight of the fabric.

58. The nonwoven fabric of claim 57, wherein the adhesive material is from about 10 to 15 percent by weight of the total weight of the fabric.

59. The nonwoven fabric of any of claims 54 through 58, wherein the adhesive includes bridges.

60. The nonwoven fabric of any of claims 53 through 59, wherein at least one of the first and second layers includes at least 40 yarns per inch, in a transverse direction of the yarns.

61. The nonwoven fabric of any of claim 53 through 60, wherein at least one of the first and second layers includes between 60 and 100 yarns per inch in a transverse direction of the yarns.

62. The nonwoven fabric of any of claims 53 through 61, wherein the first direction and the second direction include an angle between about 80 and up to about 89.97 degrees.

63. The nonwoven fabric of claim 62, wherein the angle is in the range of about 85 to about 89.7 degrees.

64. The nonwoven fabric of any of claims 53 through 63, wherein said yarns are equally spaced.

65. The nonwoven fabric of any of claims 53 through 64, wherein the fabric has a strength in the first direction equal to the strength in the second direction.

66. The nonwoven fabric of any of claims 53 through 65, wherein the yarns in the first direction represent warp yarns in a density of 40 to 90 yarns per inch of 30/1 to 36/1 count yarn.

67. The nonwoven fabric of any of claims 53 through 66, wherein the yarns in the second direction represent weft yarns in a density of 90 to 140 yarns per inch of 36/1 count yarn.

68. The nonwoven fabric of claims 66 or 67, wherein one or more of the warp yarns comprise spun polyester yarns.

69. The nonwoven fabric of claims 67 or 68, wherein one or more of the weft yarns comprise single strand cotton yarns.

70. The nonwoven fabric of any of claims 66 through 69, wherein one or more of the weft yarns are of a smaller denier value than the warp yarns.

71. A method of making a nonwoven fabric of any of claims 53 through 69, wherein the yarns in the first direction are aligned through spaces defined between a set of rollers, while the rollers are driven at a roll face speed faster than the linear speed of the yarns.

72. The method of claim 71, wherein the roll face speed is from about 2 to about 20 times higher than the linear speed of the yarns.

73. A method of forming a nonwoven product having warp yarn material

in a first direction and weft yarn material in a second direction, said method including the steps of:

supplying a plurality of warp yarns longitudinally of their length in said first direction;

supporting said plurality of warp yarns in longitudinally moving relationship and in a side-by-side arrangement along the length of an elongated substantially cylindrical support surface;

applying adhesive across radially outermost surfaces of said warp yarns;

supplying and guiding weft yarn material longitudinally of its length in said second direction from a source supply;

wrapping at least one individual weft yarn to and around the radially outermost surface of the warp yarns in a substantially perpendicular relationship therewith;

moving the warp yarns along the support surface for downstream collection subsequent to the wrapping step;

heating and thereby activating the adhesive to bond the wrapped weft yarns to the warp yarns.

74. The method of claim 73, wherein the step of applying adhesive includes:

providing said adhesive in the form of a scrim from a supply; and

laying said scrim on top of the warp yarns prior to the step of wrapping the weft yarns around the warp yarns, thereby positioning the scrim between the warp yarns and the weft yarns.

75. The method of claims 73 or 74, wherein the weft yarns is wrapped about the warp yarns so as to establish 40 to 100 wraps per inch of weft yarns along the length of the warp yarns.

76. The method of any of claims 73 through 75, wherein the step of applying adhesive and the step of wrapping are repeated at least a second time on the same warp yarns to obtain a multiple layers of warp and weft yarns.

77. A nonwoven fabric wherein the fabric consists essentially of substantially parallel warp-direction yarns supported and bonded on one side by an adhesive, said adhesive having a thickness of from about 0.25 mil to about 1 mil.

78. A nonwoven fabric wherein the fabric consists essentially of substantially parallel warp-direction yarns supported and bonded on one side by an adhesive, said adhesive having been applied to one side of said fibers at a level of from about 5 weight percent to about 25 weight percent, based upon the weight of the fabric.

79. The nonwoven fabric of claim 78, wherein the fabric weight is about 50 g/m^2 and the adhesive has weight of about 2 to 15 g/m^2.

80. The nonwoven fabric of claim 78, wherein the fabric weight is about 50 g/m^2 and the adhesive has weight of about 5 to 10 g/m^2.

81. The nonwoven fabric of claims 77 or 78, wherein the yarns are selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers and metallic fibers.

82. The nonwoven fabric of claim 81, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, polypropylene, and nylon fibers.

83. The nonwoven fabric of claim 81, wherein the natural fibers are selected from the group consisting of cotton fibers, rayon fibers, and wool fibers.

84. The nonwoven fabric of claim 81, wherein the fibers are glass fibers.

85. The nonwoven fabric of claim 81, wherein the fibers are metal fibers, selected from the group consisting of copper, gold, aluminum, silver, and platinum.

86. The nonwoven fabric of claims 77 or 78, wherein the adhesive is applied to the yarns by dip/nip saturation, spraying, gravure coating, or kiss coating.

87. A method of forming a nonwoven fibrous web, said method comprising the steps of:

a. forming a substantially parallel array of yarns, said array of yarns having two sides, a top side and a bottom side;

b. joining said parallel array of yarns with bridges comprising a web of wet or molten adhesive; and

c. cooling the wet or molten adhesive web to form a cohesive substrate comprising nonwoven parallel yarns.

88. A substantially parallel, nontwisting nonwoven warp substrate comprising a nonwoven fibrous web made according to the method of claim 87.

89. The method of claim 87, wherein the adhesive film is applied to the fibrous web by dip/nip saturation, spraying, gravure coating, or kiss coating.

90. The method of claim 87, wherein the fibers are selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers and metallic fibers.

91. The method of claim 90, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, polypropylene, and nylon fibers.

92. The method of claim 90, wherein the natural fibers are selected from the group consisting of cotton fibers, rayon fibers, and wool fibers.

93. The method of claim 90, wherein the fibers are glass fibers.

94. The method of claim 90, wherein the fibers are metal fibers, selected

from the group consisting of copper, gold, aluminum, silver, and platinum.

95. A nonwoven fabric sheet comprising substantially parallel yarn strands held together in sheet form by bridges of adhesive applied to one side of said yarn strands.

96. The nonwoven fabric sheet of claim 95, wherein the bridges of adhesive prevent twisting of the individual yarn strands in the sheet.

97. The nonwoven fabric sheet of claim 95, wherein the individual yarns strands in the sheet all have approximately the same denier.

98. The nonwoven fabric sheet of claim 95 or 96, wherein the individual yarn strands are independently selected from the group consisting of natural fibers, synthetic fibers, glass, metals, and graphite.

99. The nonwoven fabric of claim 98, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, polypropylene, and nylon fibers.

100. The nonwoven fabric of claim 98, wherein the natural fibers are selected from the group consisting of cotton fibers, rayon fibers, and wool fibers.

101. The nonwoven fabric of claim 98, wherein the fibers are glass fibers.

102. The nonwoven fabric of claim 98, wherein the fibers are metal fibers, selected from the group consisting of copper, gold, aluminum, silver, and platinum.

103. An apparatus for forming a nonwoven fabric product having substantially perpendicular warp yarns and weft yarns, said apparatus comprising in combination:

a warp yarn support system including an elongated substantially

cylindrical support structure having a low friction outer substantially cylindrical surface,

a supply of elongated parallel warp yarns positioned side-by-side along the length of said substantially cylindrical surface, said warp yarns having adhesive on their exposed surface,

a delivery system for weft yarn material including a drum mounted for rotation about said support structure, power means for rotating said drum about said support structure, at least one source supply of weft yarn material mounted on said drum for rotation therewith, and a guide system for delivering said weft yarn material from said source supply to said adhesive coated outer surface of said warp yarns, upon rotation of said drum such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein said driven system and said power means for rotating said drum are independently operated and at least one is variably driven such that the angle of wrap of said weft yarn material relative to the warp yarns is variable.

104. The apparatus of claim 103, wherein said source supplies of weft yarn material are spools of the weft yarn material.

105. The apparatus of claim 103, wherein said drum comprises a hollow ring surrounding said cylindrical support structure having a radial wall with inner and outer surfaces and a spaced apart radial wheel interconnected with said radial wall and said source supplies of weft yarn material are mounted on the inner surface of said radial wall.

106. The apparatus of claim 105, wherein weft yarn material from each of said source supply is fed to said radial wheel radially inwardly along said radial

wheel to the warp yarns on said cylindrical support structure.

107. The apparatus of claim 106, wherein said radial wheel further includes a conical alignment guide positioned immediately adjacent to said warp yarns and around which said weft yarns extend prior to being wound around said warp yarns.

108. The apparatus of claim 107, wherein the slope of the conical alignment guide ranges from about 15 to 60 degrees.

109. The apparatus of claim 108, wherein the slope of the conical alignment guide is about 45 degrees.

110. The apparatus of claim 103, wherein said weft yarn material is wrapped about said warp yarns so as to establish 40-100 wraps of weft yarn material per inch along the length of said warp yarns.

111. An apparatus for forming a nonwoven fabric product having substantially perpendicular warp yarns and weft yarns, said apparatus comprising in combination:

a warp yarn delivery and support system comprising a supply of elongated parallel warp yarns positioned side-by-side, said warp yarns having adhesive on their exposed surface,

weft yarn delivery and support system comprising a rotating drum with a supply of weft yarn material mounted therein and a conical alignment guide for delivering said weft yarn material to said adhesive coated outer surface of said warp yarns upon rotation of said drum, such that said weft yarn material is wrapped around said warp yarns in substantially perpendicular relationship therewith,

a driven take-up system downstream from said weft yarn delivery system operatively connected to said warp yarns for moving said warp yarns along said support structure and through said weft yarn delivery system, and

a heater downstream from said weft yarn delivery system for activating

said adhesive to bond said wrapped weft yarn material to said warp yarns,

wherein said driven system and said power means for rotating said drum are independently operated and at least one is variably driven such that the angle of wrap of said weft yarn material relative to the warp yarns is variable.

112. The apparatus of claim 111, wherein variation of the speed of the rotating drum relative to the speed of the warp yarn take-up system changes the packing of the weft yarns on the warp yarns.

113. The apparatus of claims 111 or 112, wherein variation of the speed of the warp yarn take-up system relative to the speed of the rotating drum changes the packing of the weft yarns on the warp yarns.

114. A nonwoven fabric comprising a first layer of warp yarns, a second layer of weft yarns substantially perpendicular to said warp yarns, and adhesive between the warp and weft yarn layers, the density of at least one of said warp yarns and weft yarns in the fabric being in the range of 40-140 yarns per inch.

115. The nonwoven fabric of claim 114, wherein each of the individual warp yarn and weft yarn fibers is independently selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers and metallic fibers.

116. The nonwoven fabric of claim 115, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, polypropylene, and nylon fibers.

117. The nonwoven fabric of claim 115, wherein the natural fibers are selected from the group consisting of cotton fibers, rayon fibers, and wool fibers.

118. The nonwoven fabric of claim 115, wherein the fibers are glass fibers.

119. The non-woven fabric of claim 115, wherein the fibers are metal fibers, selected from the group consisting of copper, gold, aluminum, silver, and platinum.

120. The fabric of claim 115, wherein the density of both said warp yarns and weft yarns in the fabric is in the range of 40-140 yarns per inch.

121. The fabric of any of claims 114 through 121, wherein the denier of said warp and weft yarns is different.

122. The fabric of any of claims 114 through 121, wherein the denier of individual yarn fibers in said warp and weft yarns is different.

123. The fabric of any of claims 114 through 121, wherein the denier of said warp and weft yarns is the same.

124. A nonwoven fray resistant fabric comprising a layer of polyester warp yarns and a layer of substantially perpendicular polyester weft yarns adhesively secured together, said adhesive constituting 5-20 percent by weight of the total weight of the non-woven fabric.

125. The nonwoven fray resistant fabric of claim 124, wherein the density of at least one of said warp yarns and said weft yarns in the fabric is in the range of 40-100 yarns per inch.

126. The nonwoven fray resistant fabric of claim 124, wherein the density of both said warp yarns and weft yarns in the fabric is in the range of 40-100 yarns per inch.

127 ~~128~~. The nonwoven fray resistant fabric of any of claims 124 through 126, wherein the denier of said warp and weft yarns is different.

128. A method of forming a non-woven product having warp yarn

material in a first direction and weft yarn material in a substantially perpendicular direction to said warp yarns, said method including the steps of:

supplying a plurality of substantially parallel warp yarns longitudinally of their length in said first direction, said warp yarns having adhesive on substantially only one side thereof;

supporting said plurality of warp yarns, with said adhesive exposed, in a longitudinally moving relationship and in a side-by-side arrangement along the length of an elongated substantially cylindrical support surface;

wrapping at least one individual weft yarn to and around the radially outermost surface of the warp yarns in a substantially perpendicular relationship therewith;

moving the warp yarns along the support surface for downstream collection subsequent to the wrapping step;

heating and thereby activating the adhesive to bond the wrapped weft yarns to the warp yarns.

129. The method of claim 128, wherein the weft yarns is wrapped about the warp yarns so as to establish 40 to 100 wraps per inch of weft yarns along the length of the warp yarns.

130. A pressure lamination apparatus useful in the manufacture of nonwoven fabrics, said lamination apparatus comprising:

(a) a housing or frame in which a pressure box is mounted;

(b) said pressure box comprising two spaced apart pressurizable sections, an upper section and a lower section, wherein the space formed between the two sections defines a lamination section;

(c) two counter rotating drive belts, an upper drive belt and a lower drive belt, rotatably mounted in said housing or frame, wherein said belts contact one another at and pass in the same direction through the lamination section;

(d) a fluid medium pressure generator for supplying pressure to the upper and lower sections of the pressure box for compressing said drive belts moving there between; and

(e) whereby, depending upon the direction of rotation of said belts, one

end of the lamination section acts as an inlet for substrates to be laminated and the opposite end acts as an outlet for pressure laminated materials.

131. The pressure lamination apparatus of claim 130, wherein the upper section of the pressure box further comprises a plurality of heating elements.

132. The pressure lamination apparatus of claim 130, wherein the upper section of the pressure box further comprises a plurality of cooling elements.

133. The pressure lamination apparatus of claim 130, wherein the lower section of the pressure box further comprises a plurality of heating elements.

134. The pressure lamination apparatus of claim 133, wherein the lower heating elements are fixed in place.

135. The pressure lamination apparatus of claim 130, wherein the lower section of the pressure box further comprises a plurality of cooling elements.

136. The pressure lamination apparatus of claim 135, wherein the lower cooling elements are fixed in place.

137. The pressure lamination apparatus of claim 135, wherein lower section of the pressure box is mounted rigidly to the frame or housing.

138. The pressure lamination apparatus of claim 130, wherein the upper section of the pressure box is mounted to the frame in an adjustable manner.

139. The pressure lamination apparatus of claim 130, wherein the pressure box sections further comprise pressure seals at the sides and the inlet and outlet ends of the lamination section.

140. The pressure lamination apparatus of claim 139, wherein the drive belts are pressurized within a range of from about 3000 lbs to about 15,000 lbs,

over an area of about 1500 in^2.

141. The pressure lamination apparatus of claim 140, wherein the drive belts are pressurized within a range of from about 7,000 lbs to about 10,000 lbs, over an area of about 1500 in^2.

142. The pressure lamination apparatus of claim 140, wherein the drive belts are pressurized at about 15,000 lbs.

143. A laminated non-woven fabric formed in the apparatus of claim 130, said laminated fabric comprising:

a first non-woven layer and a second non-woven layer laminated to one another to form a laminated composite fabric;

said first non-woven layer having yarns aligned in the machine direction;

said second non-woven layer having yarns aligned substantially perpendicular to the machine direction;

said laminated composite fabric further including adhesive disposed between the first and second non-woven layers.

144. The laminated nonwoven fabric of claim 143, wherein each of the individual warp yarn and weft yarn fibers is independently selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers and metallic fibers.

145. The laminated nonwoven fabric of claim 144, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, polypropylene, and nylon fibers.

146. The laminated nonwoven fabric of claim 144, wherein the natural fibers are selected from the group consisting of cotton fibers, rayon fibers, and wool fibers.

147. The laminated nonwoven fabric of claim 144, wherein the fibers are

glass fibers.

148. The laminated nonwoven fabric of claim 144, wherein the fibers are metal fibers, selected from the group consisting of copper, gold, aluminum, silver, and platinum.

149. A laminated nonwoven fabric comprising:

a first nonwoven layer of yarns aligned in the machine direction;

a second nonwoven layer aligned substantially perpendicular to the machine direction;

a suitable bonding amount of heat activatable adhesive disposed between the first and second nonwoven layers;

said adhesive being heated under pressure and cooled under pressure to afford a laminated nonwoven fabric.

150. The laminated nonwoven fabric of claim 149, wherein the pressure is at least 3000 lbs.

151. The laminated nonwoven fabric of claim 149, wherein the pressure is at least 10,000 lbs.

152. The laminated nonwoven fabric of claim 149, wherein the pressure is 15,000 lbs.

153. The laminated nonwoven fabric of claim 149, wherein each of the individual warp yarn and weft yarn fibers is independently selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers and metallic fibers.

154. The laminated nonwoven fabric of claim 149, wherein the polymer fibers are independently selected from the group consisting of polyester, polyethylene, polypropylene, and nylon fibers.

155. The laminated nonwoven fabric of claim 149, wherein the natural fibers are independently selected from the group consisting of cotton fibers, rayon fibers, and wool fibers.

156. The laminated nonwoven fabric of claim 149, wherein one or more of the fibers are glass fibers.

157. The laminated nonwoven fabric of claim 149, wherein the one or more of the fibers are metal fibers, selected from the group consisting of copper, gold, aluminum, silver, and platinum.